

Amendment Dated: December 19, 2003
in Response to Office Action dated: August 27, 2003
SN 10/072,380

MANSFIELD, ET AL

“Upper Gearset Support For Marine Stern Drive Unit”

Declaration of Aaron C. Mansfield
Under 37 C.F.R. §1.131
(Dated September 21, 2001)



PATENT

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

Applicant: AARON C. MANSFIELD)
JASON A. MANSFIELD)

Serial No.: 09/678,154)

Ex. G. BENDA
A/U 3629

Filing Date: October 2, 2000)

Title: UPPER CASE HOUSING SUPPORT)
TOWER FOR MARINE STERN DRIVE)
UNIT)

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DECLARATION OF AARON C. MANSFIELD UNDER 37 C.F.R. §1.131

1. I, AARON C. MANSFIELD, am a co-inventor of the subject matter of the above-identified patent application, along with my brother, JASON A. MANSFIELD.

2. I received technical training in marine engines in 1991. I am certified as a technician qualified to repair Mercury outboard engines and Mercruiser Stern Drive units and have been since 1994.

3. I worked as a marine engine mechanic and technician at Maverick Marine in Lake Havasu, Arizona from 1992 to 1998.

4. During my employment at Maverick Marine, I became aware of problems with the Bravo stern drive unit manufactured by Mercury. The problems were particularly apparent in high performance applications as damage to the drive system, including the drive shaft, clutch and gears, often occurred in these applications.

5. I discussed this problem on a number of occasions with my brother, Jason, who is also a certified technician in the field of marine drives. We discussed various modifications that would result in reduced failure and higher performances.

6. We formed a company, Max Machine Worx, in 1998 for the purpose of specializing in repair of Bravo units and to implement our design concepts.

7. In early 1999, we conceived and built a drive shaft housing, which we termed a "Tower," which we believed would substantially improve the Bravo 1, 2, 3, and later X2 and XR units. Our Tower replaced a portion of the existing cast drive shaft housing and incorporated a number of new features including increased length so that the Tower extended into the lower case. Further, the Tower was secured in place by a flange nut in the lower case abutting the upper case facilitating installation, removal and substantially improved performance. Later testing indicated that our modification increased the horsepower capacity of the Bravo unit by as much as 400 hp to over 1000 hp. The original conception drawings dated February 15, 1999, are attached as Exhibit 4.

8. My brother and I are both machinists and we fabricated the components of our design in our shop at Max Machine Worx. The Tower was installed in a boat and tested in the Spring of 1999 and the tests were successful proving the efficiency of our design.

9. The attached Exhibits 1 to 3 are copies of photographs taken and dated by me on the dates indicated, June 1999, and show the Tower which was fabricated, machined and tested by my brother, JASON A. MANSFIELD, and me, which design is the subject of our patent application. The Tower design was complete and testing was completed by the June 1999 date shown on the photographs. We then contacted our patent attorney, Gregory J. Nelson and,

subsequently, we filed the subject application as a provisional application on November 9, 1999.

I further declare that all statements made herein are true and that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this document and the registration to which it relates.

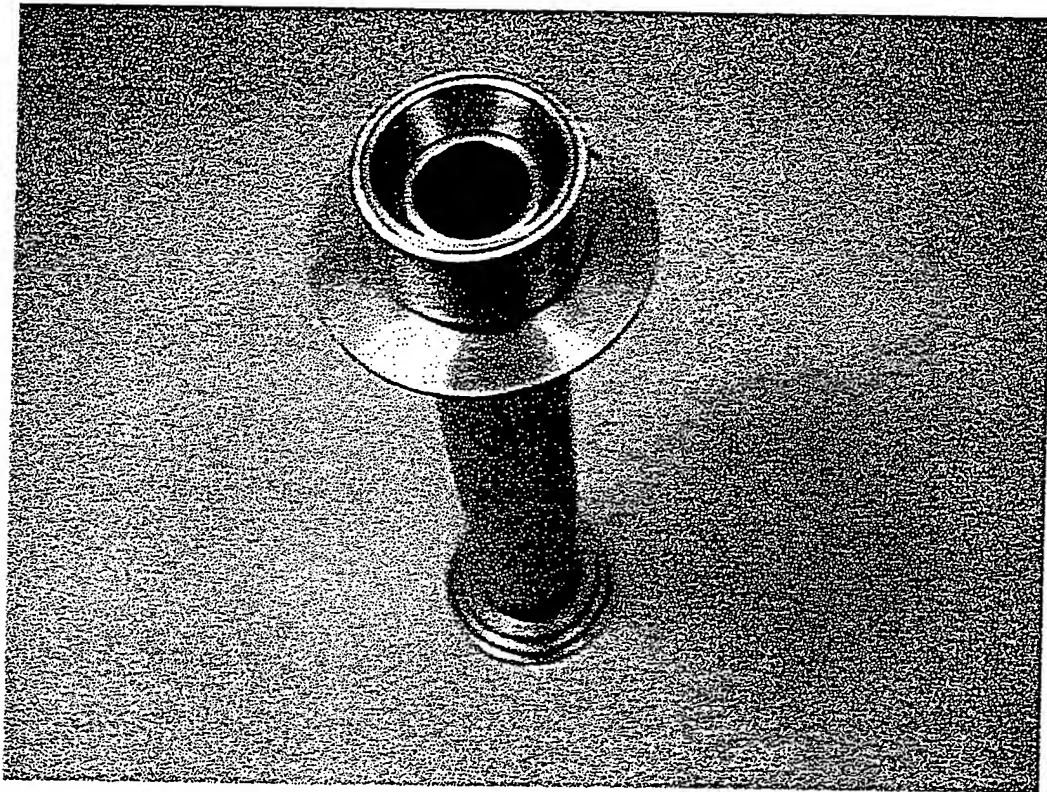
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Date:

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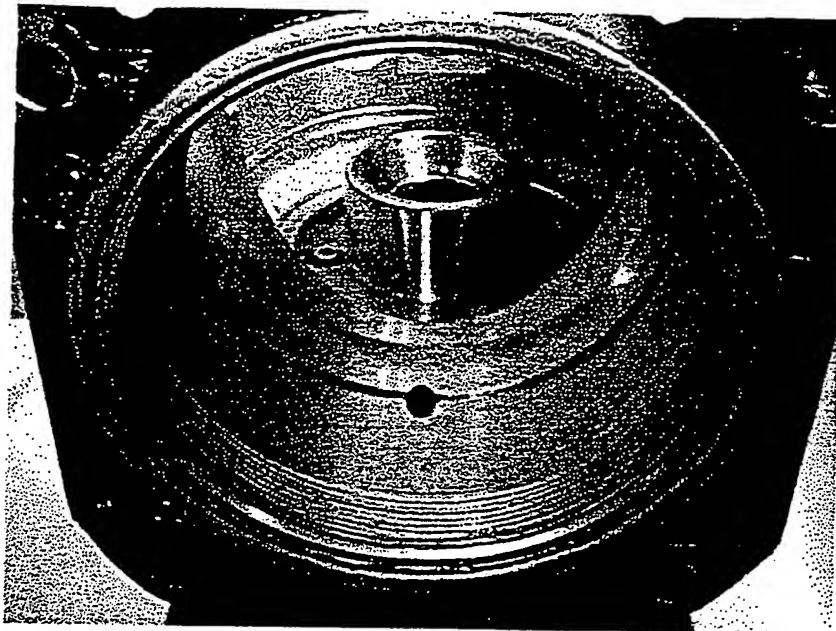
Aaron C. Mansfield
Aaron C. Mansfield, Co-inventor

TOWER ITSELF



MAXMACHINEWORX "HORSEPOWER TOWER"™

EXHIBIT 1



6-99

MAXMachineWorxHPTower

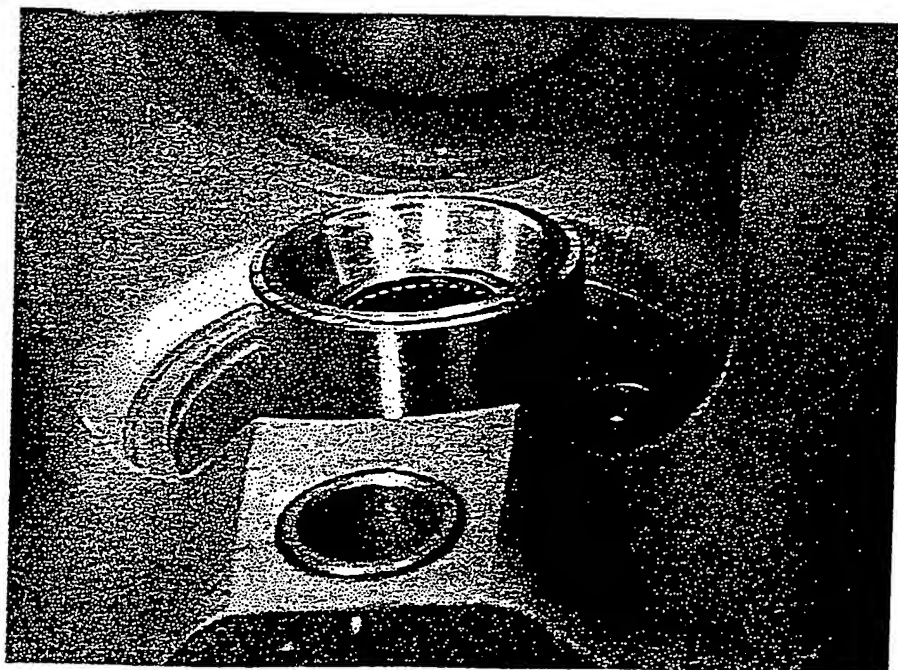
Front View

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EXHIBIT 2

EXHIBIT 3

REAR VIEW



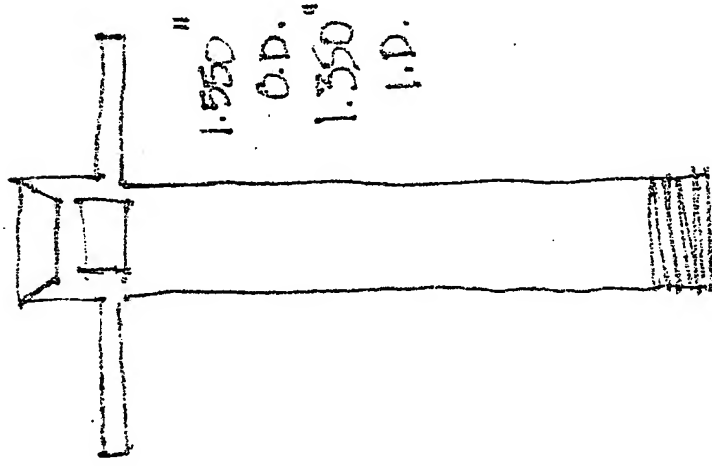
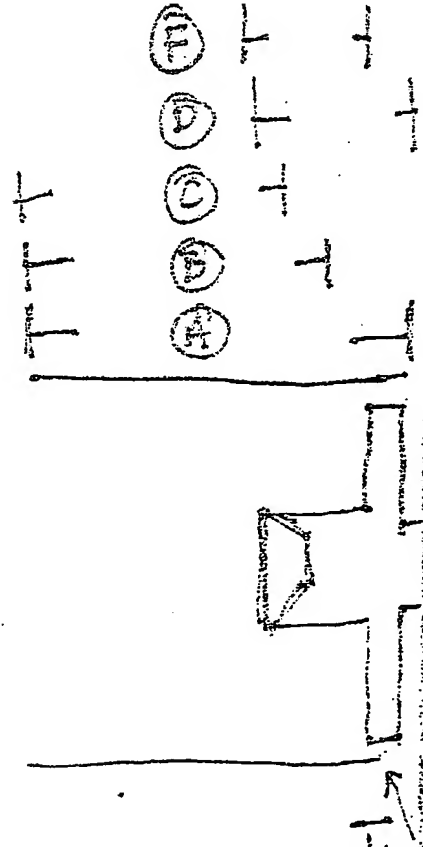
EXHIBIT

4 By AARCO 2-15-99

Max Machine Work

5.265
 3.983
 1.282" to bottom cut #1
 .152" thick @ flat
 1.130" @ 1.795" - lower dia

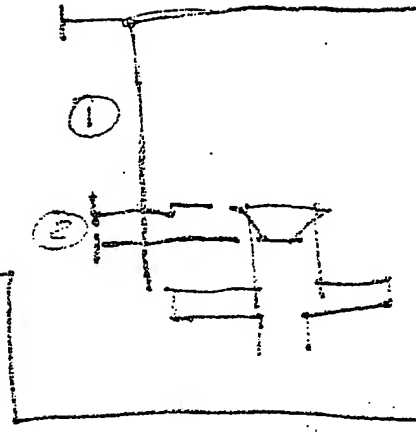
5.265" Top of Case to Cut #1
 4.387" Top of Case to Taper Bottom
 3.983" Top of Case to Taper (over) Top
 1.282" Lower Height from Cut #1
 .150" Cut #1 - Flat 3.225" Base dia
 1.132" Lower Height from 3.225" flat
 @ 1.795" dia



Top of Taper : 1.670 dia
 Bottom of Taper : 1.300 dia

① 5.406
 1.423
 3.983"
 Top to Base

② 5.810
 1.423
 4.387"
 TO BOTTOM OF TAPER



OVERALL LENGTH